

# **RAILS TO TRAILS STUDY McMINN COUNTY TENNESSEE PEDESTRIAN, BICYCLE, and HORSE PATH POTENTIAL FEASIBILITY STUDY**

**August 2011**



**Long Performance Advisors, LLC  
Mark S. Long, M.S., President**

**MCMINN COUNTY RAILS TO TRAILS - ATHENS TO ENGLEWOOD  
MULTIPLE USE PATH FEASIBILITY STUDY**

**Table of Contents**

<b>INTRODUCTION</b>	<b>3</b>
<b>GENERAL INFORMATION &amp; STUDY PURPOSE</b>	<b>9</b>
<b>LOCATION AND BACKGROUND</b>	<b>10</b>
<b>TRAILS IN TENNESSEE AND ELSEWHERE</b>	<b>13</b>
<b>THE PLAN FOR A RAIL-TRAIL IN MCMINN COUNTY</b>	<b>15</b>
INTENDED USE	15
TRAIL SURFACE	16
ADDITIONAL COSTS	20
POTENTIAL ECONOMIC BENEFITS	22
ALTERNATIVE USES	24
MAINTENANCE AND SECURITY	24
LIABILITY AND INSURANCE	26
<b>CONCLUSIONS AND SUMMARY</b>	<b>27</b>

***Appendices are attached beginning on page 30. Some appendices are duplicated in the text; all are attached for convenience and clarification for the reader.***

## **MCMINN COUNTY RAILS TO TRAILS - ATHENS TO ENGLEWOOD MULTIPLE USE PATH FEASIBILITY STUDY**

### **INTRODUCTION**

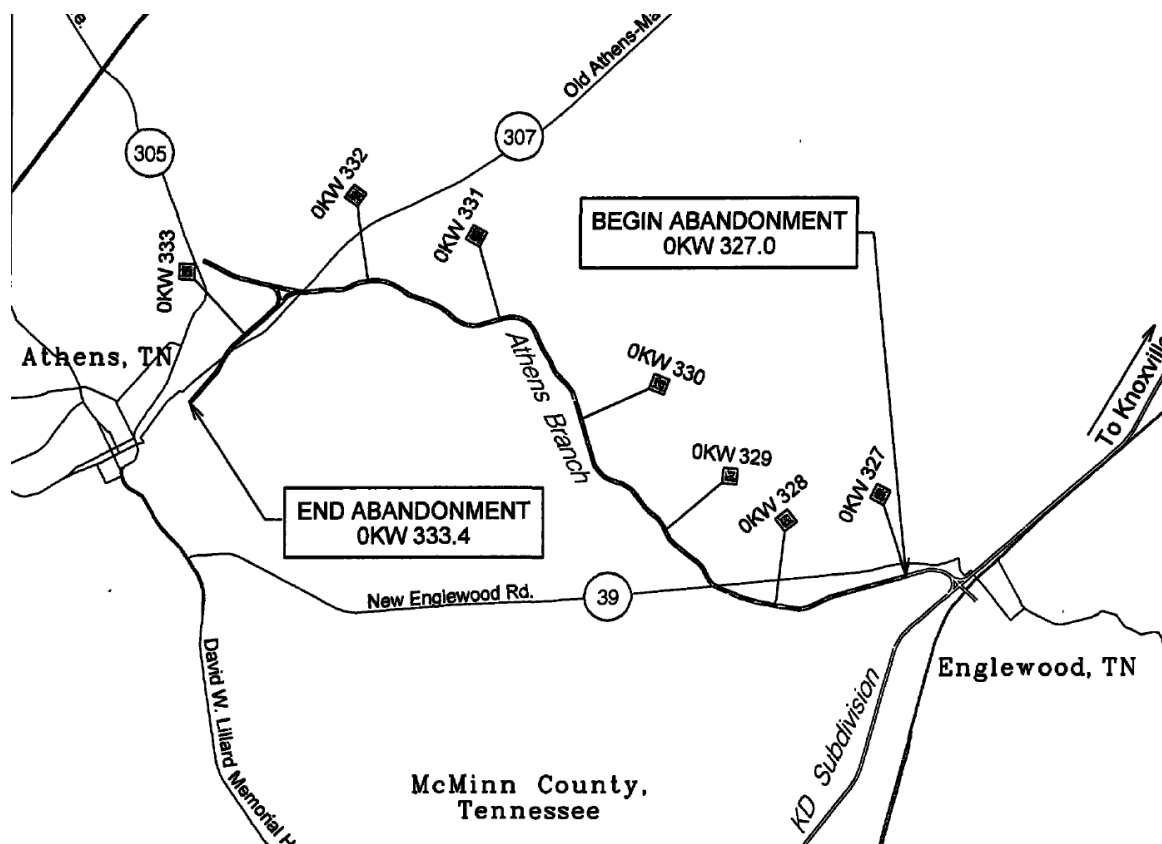
This Feasibility Study for the McMinn County Rails to Trails project is formatted to provide known information and factors to be considered in the design and location of this trail. The proposed project extends from the city of Athens to the City Englewood and will be developed as a multiple use trail. The purpose of this study is to determine potential costs of implementation of this project once the railway is acquired. Contacts have been made with local, county, state and federal agencies and those comments have been incorporated into this study.

The length of the project is approximately 6.4 miles long and the railroad right-of-way is approximately 26.4 acres of land. The landowner is the CSX Railroad Company (CSX) and the right-of-way has been railbanked and the federal Surface Transportation Board has authorized a Notice of Interim Trail Use (NITU). McMinn County has an agreement to be the railbanking agency and has initiated the process of negotiating for the acquisition of the land from CSX. McMinn County has received a Recreational Trails Program grant to assist in the land acquisition of the property. See the attached map (Exhibit A) on the following page for an overview of the project layout.

This study considers the following features that are presently documented between Englewood and Athens:

1. Existing physical features (as observed)
2. Stream crossings
3. Wetlands
4. Adjacent property ownership
5. Right of way and easement locations
6. General topography
7. Existing vehicular traffic crossings, parking, ingress and egress to the trail
8. Environmental information and safety hazards
9. Access to local business
10. Park connections and nearby attractions
11. Potential trail uses
12. Potential tourism development and impacts
13. Cost estimates for design and construction (with alternatives)

## EXHIBIT A



While we have reason to believe the information in this study is correct, not every aspect of the Rails to Trails project can be determined. These include available land for trailhead parking, nearby campground usage and placement of items such as restrooms, trailhead areas and the development of small parking areas and trail signage. This report does discuss the importance of these factors and notes their effect (both physically and financially).

Tennessee State Route (SR) 39 presently provides the primary direct connection for people seeking to travel from Athens to Englewood. Athens and Englewood are the two cities with major population centers in the county area. However, there is not any viable means to support bicycle or pedestrian traffic between these two cities as other than on the shoulders of the busy SR 39. The location of the Railway and its development as a multiple use trail would provide a direct connection between Athens and Englewood. This study addresses the feasibility of locating a pedestrian and bicycle path within the proximity of the railroad right-of-way, with an option of adding horse trail use.

The primary goal of this study is to provide McMinn County and the surrounding area



citizens with a reasonable picture of the potential economic impact of a trail; the potential estimated cost of building and maintaining the trail; the potential multiple uses of the trail; and the potential positives and negatives of having a trail in McMinn County and the East Central Tennessee region.

It includes comparisons to similar projects that exist in Tennessee and other states; and provides data to show the results of existing trail tourism and trail usage. While a definitive recommendation regarding whether or not to purchase the Railway and convert it to a Trail is not in the actual scope of the research contract, the report does make various recommendations in regards to aspects of trail construction, maintenance and design (using an underlying assumption of project acceptance).

The goal of this report is to inform, educate and provide options to the area leaders and project reviewers, and to insure that the many options regarding the Rails to Trails project have been explored. The intent of this study is to assist the local government agencies, the Chamber of Commerce, and the citizens of McMinn County in making a quality decision regarding the Athens to Englewood Rails to Trails project.

### **Existing trail surface – McMinn County**



## EXECUTIVE SUMMARY

There are many facets to planning and implementation of a Rails-to-Trails/Greenway project, including the following:

- Purchase of the railroad right-of-way property;
- Design of the potential pathway and its support facilities;
- Designation of the surface to be developed;
- Desired use(s) selected and potential users of the trail;
- Potential issues and objections to use for the trail;
- Cost estimates for design and construction of the trail;
- Local concerns/feelings about the project.

A Rail-to-Trail (R2T) is certainly an “involved” project, and the entire community will be positively affected by the building of this project.

For this reason, Long Performance Advisors, LLC, (LPA) set out to determine the overall feasibility of building a trail in McMinn County, Tennessee, by discussing the project with local citizens, local government, state government, national trail experts, state and national experts in a variety of areas which impact trail construction and use, and potential users of the trail. Caveat: LPA is not an engineering, construction or environmental firm; this report is not an assessment of the actual physical feasibility of building a trail or the actual physical and topographical features of the existing site. Rather, this report is an analysis of the determination of local willingness to build the trail, and of the possible economic effects on McMinn County of the presence of a R2T facility. This report also compares similar existing trails and the effects those trails have on their communities, along with providing cost data and analysis of trail construction of various methods and types.

The potential R2T in McMinn County would be the 2<sup>nd</sup> longest trail in the State of Tennessee. This trail would be a combination of a “destination” trail and an “access” trail; people would possibly come to McMinn County *because of the trail*, to some extent. But, more likely, since the trail runs from one community to another, and passes by scenic vistas, it can also be an “access trail,” that is, a healthy and fun way to get to places like the scenic vistas and events near the ends of the trail to be located in the cities of Athens and Englewood.

The R2T would require amenities at destination trailheads. These include restrooms, information kiosk, water supply, benches/picnic tables, parking, signage, appropriate surface material, safety provisions, security, maintenance, and insurance. Developing the R2T would provide reasonable opportunity for economic development potential in the form of tourist attraction, which will increase sales tax revenue, potential new business formation, and influx of new dollars into the area. In addition, the increased use of the trail by the local population should provide another recreation and fitness opportunity for that population.

LPA recommends the R2T be a “multi-use” trail, and hikers, walkers, bicyclists, roller blade enthusiasts and those participants with disabilities to have equal access to the trail. There may also be an opportunity to allow access for equestrian use and this will be dependent on the design of the trail. Therefore, the development of the R2T surface of the trail should include both “hard” and “soft” surfacing. A cross section of the trail could include a “firm” surface (such as asphalt) and a “soft” surface (such as a composite or earth-type surface), for runners and horseback riders.

There will be a substantial investment required to completely develop the trail, ranging anywhere from around \$400,000 to over \$13,000,000, depending on what surface is chosen and what amenities are added to the trail. These development costs can be broken down into multiple phases, probably 5-6 over the course of 4-8 years. Grants (as indicated in the appendix related to funding sources) should be pursued to cover most of the cost of funding the trail construction; however, some cost will have to be born by the county and the two cities. To assist in the operation and management of the R2T, a “non-profit” entity just as a “Friends of the Trail” group should be organized to provide for the trail.

Other groups, such as the Southern Appalachian Back Country Horsemen organization and the local/regional Bicycle clubs, have volunteered to provide maintenance services free of charge in exchange for use of the trail (on an annual basis). Overall, local citizens are very positive about the potential of the trail; while some local landowners are concerned about trail traffic, their concerns can be partially alleviated by the use of fencing trail sections in various locations. Many studies are available to show an increase in property values and salability (desired location adjacent to a trail) and the increased safety profiles of surrounding properties after trail construction.

Trails are excellent additions to many communities where they have been developed, by bringing in additional sales and business tax revenues. The Rails-to-Trails projects often enhance the general health of the local population by increasing physical activity opportunities and provide educational and social opportunities for the general population. There are studies available that actually show a decrease in health insurance costs in communities where trails are constructed.

Trails such as this R2T project give communities an entire “new identity” and can change the economic, social and national face of a community. The presence of a trail can enhance local festivals and promote the use of local restaurants, motels, bed and breakfast establishments, and retail stores. In McMinn County, the trail should spawn new businesses and in conjunction with the incubator project, the trail should stimulate the creation of businesses designed to service those who will use the trail (bicycle shops, tack shops, restaurants, etc.).

Any reasonable economic development project takes investment – time and money. This project is no different. A trail is NOT an “economic panacea” for an area; however, it is a very attractive facility to add to the package that McMinn County, Athens and Englewood could offer to bring people into the area. The funds invested into this R2T



can be paid off in a reasonable time frame and will continue to pay off for many years, placing McMinn County “on the map” as a national destination for trail enthusiasts everywhere, and provide a wonderful local asset for future generations.

LPA believes and recommends McMinn County should purchase this property and develop the Rails-to-Trails project, and with proper site development, understand over time this new facility will provide a return on the investment over the next 5-10 years.

### **Clear Creek Trail, Bloomington, Trail Head Example**



## GENERAL INFORMATION & STUDY PURPOSE

Long Performance Advisors, LLC (LPA), was contracted to evaluate the potential for development of a Greenway/Trail in McMinn County, Tennessee, on the site of the CSX Transportation Athens Branch, between mileposts OKW 327.0-OKW 333.4, between Athens, Tennessee, and Englewood, Tennessee (**SEE MAP, EXHIBIT A**). The line traverses United States Postal Service Zip Codes 37329 and 37303, and includes the Athens station (milepost OKW 334). The line does not contain any federally granted rights-of-way. An initial notice and petition was filed with the Surface Transportation Board (STB) (by CSX) on May 1, 2009, for exemption from the provisions of 49 U.S.C. 10903 to abandon the 6.4-mile rail line (known as the “Athens Branch”). Other documents were also discovered that date back to 1995 for similar notices and petitions for sections of the Athens Branch (such as the section between milepost 333.20 to milepost OKW 334.61) (**SEE EXHIBIT B, ATTACHED**).

LPA was made aware that the government of McMinn County has been in negotiations with CSX Transportation (CSX) to purchase the ownership rights to the rail property. It is noted, in conversations with Mr. Robert Richards, CPRP, CPSI, Greenways and Trails Program Coordinator for the State of Tennessee, that the railroad corridor has not been “abandoned”; the true terminology is “rail banked”, which means that McMinn County has filed a petition with the Surface Transportation Board certifying that McMinn County is willing to accept and provide for the cost of maintaining the railroad corridor. Furthermore, on August 13, 2009, the STB issued a positive decision regarding CSX’s petition on the rail property, and in that decision mentioned McMinn County’s efforts to acquire the property.

However, LPA was not contracted to do extensive legal background work, purchase negotiations, technical feasibility, cost of acquisition, or environmental survey work on the property. LPA was hired to perform the following functions:

- a) Economic viability, attractiveness, and potential of the project;
- b) Possible cost of construction and operation;
- c) Possible designs and layouts for the project;
- d) Potential business generation and overall economic/tourism impact;
- e) Potential users, use levels, and user characteristics

LPA examined legal documents, reports, performed a site visit, performed numerous interviews, exchanged emails with experts and other individuals involved in the project from CSX, the Rails-To-Trails Conservancy, the State of Tennessee Greenways and Trails Program Coordinator, several State, County and City Governmental Officials, the Chamber of Commerce of Athens, Tennessee Overhill Excursion Railroad staff, and many private citizens.

LPA studied and compared various other projects in both Tennessee and other states, including:

- The Virginia Creeper National Recreation Trail
- The Cumberland River Bicentennial Trail
- The Monon Trail in Indiana
- The Katy Trail in Missouri
- And the Kennebec River Rail-Trail in Maine.

Also studied carefully was a local trail nearby and easily available to LPA, the Bloomington, Indiana B-Line Trail and Clear Creek Trail – an excellent comparison of a partially paved, 4.4-mile rural trail system. This report examines the data from those trails regarding Traffic patterns, visitor types, and business associations.

## LOCATION AND BACKGROUND

As previously mentioned, the area of the potential trail/greenway is the site of the CSX Transportation Athens Branch, between mileposts OKW 327.0-OKW 333.4, between Athens, Tennessee, and Englewood, Tennessee (**SEE MAP, EXHIBIT A**), a 6.4 mile stretch of former railway, varying between 10'-16' in width, and encompassing approximately 26.4 acres in total property mass, with two trail heads. The first trail head is "split" shortly after crossing State Road 307, with two small "spurs" (each approximately less than 0.4 miles in length). One spur (Spur "A") travels north of the other spur, crosses State Road 305, travels beside a small stream and terminates into vacant lot area near "Fishers Field" in the town of Athens, Tennessee; the other spur (Spur "B") travels through Knox Park, behind the Mayfield Dairy complex, continuing behind the site of the Athens Plow Company, and terminates in a vacant lot behind the Athens Red Cross building (**See Exhibit C, next page and Exhibits D, E, attached**). Both of these areas seem to provide access and possible parking for trail access, but a survey and site evaluation will need to be performed. The other end of the potential trail is in Englewood, Tennessee; that end of the trail also ends in a vacant lot, purportedly leased by the Lion's Club of Englewood. Again, the large open area provides more than adequate trail access, parking area, and area for the construction of an information kiosk and restrooms.

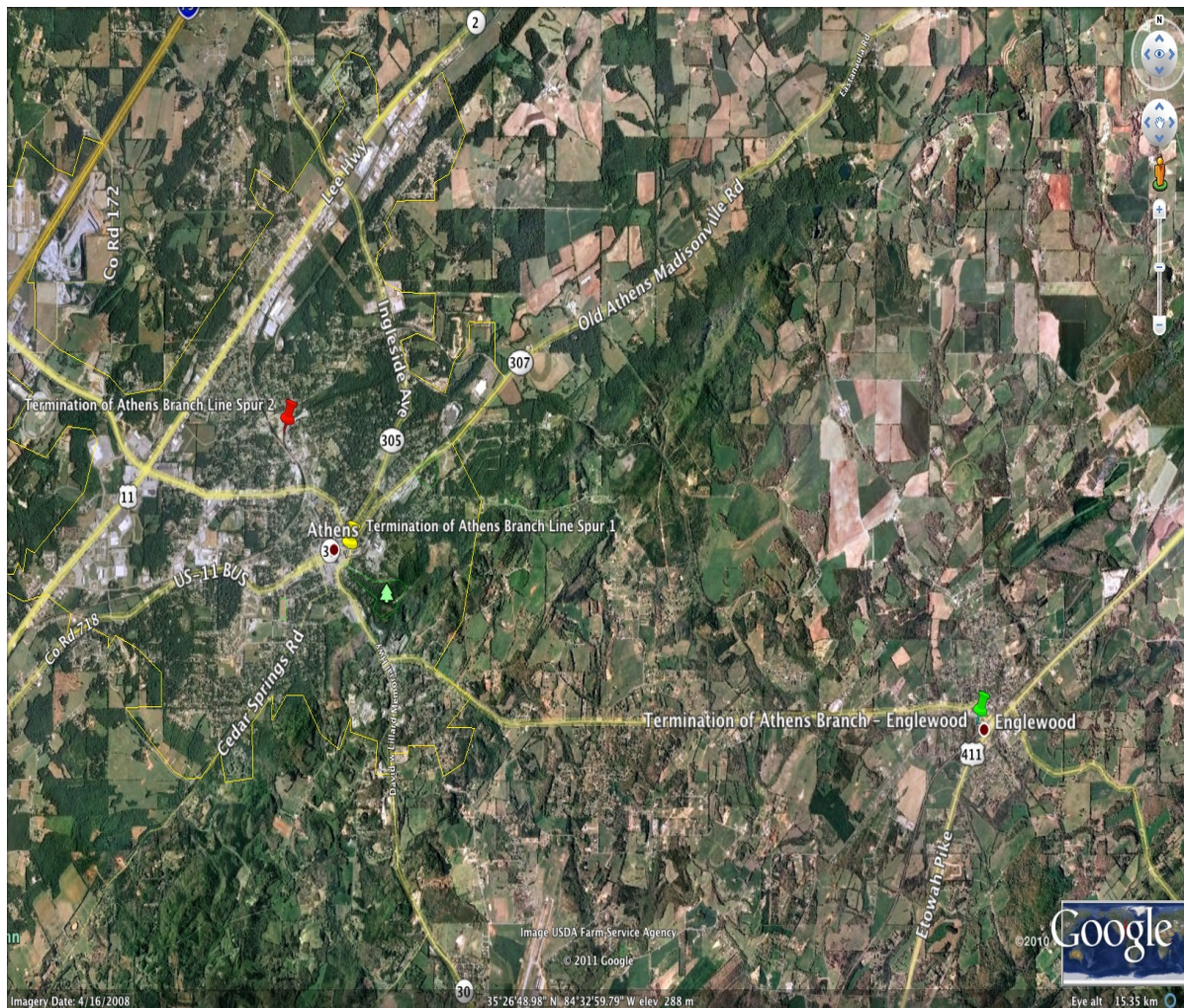
A tour of the entire potential trail was taken via motorized vehicle on June 28, 2011. Various pictures of the trail are included in **Exhibit F, attached**. The trail contains many natural features including wetlands, streams, wooded areas, tree canopies, large growth trees, native tree, shrub, vine and flower species, and spectacular views of the foothills of the Smokey Mountains. In addition, wildlife in the area was observed in its natural state (deer).

As seen in Exhibit E, there are several bridges over the 6.4-mile route but no tunnels or large trestles, and all bridges/small trestles are in excellent shape. The overall path itself (the metal track and ties have been removed) consists of the ballast



(gravel/crushed rock) rail bed left by the railroad. The bed itself is in very good shape, with very few areas of washout or removal, and it is very flat/level in most places with little grade or steep areas to climb. There are five areas of road crossing – two on the main trail at State Road 307 (right where the two spurs meet) and at State Road 30; and three on the two spurs, with two crossings on the “South Spur” at State Road 307 and State Road 30, and one on the “North Spur” over State Road 305. As the rail and ties have been removed for over a year, and the trail has not been used often, there was some debris on the trail and a few trees fallen over the path in places. Overall, however, the trail is in excellent condition as evidenced in the photographs in Exhibit E.

## EXHIBIT C – ENTIRE TRAIL, GOOGLE EARTH VIEW



The history of the railroad in McMinn County dates back to the Hiwassee Railroad system back in 1837. After the failure of this company, other Railroads made their way into McMinn County, establishing Athens as a rail hub in East Central Tennessee. The L&N became one of the Family Lines created by the Seaboard Coast Line (SCL) in 1972. The Southern Railway became part of Norfolk Southern as a result of the 1982 consolidation of the Southern with the Norfolk and Western. Most of the Family Lines

were formally merged in 1983 to form the Seaboard System Railroad, which was renamed CSX Transportation in 1986.

CSX inherited the traditional Middle Tennessee dominance exercised by the L&N for nearly a century and broadened its influence in East Tennessee through another merged Family Line, the Clinchfield Railway. Widely known for its remarkable engineering through challenging mountainous terrain, the Clinchfield crossed Tennessee (a major shop facility is located at Erwin) on its passage from South Carolina to Kentucky. The Illinois Central merged with the Gulf, Mobile and Ohio in 1972 to form the Illinois Central Gulf Railroad, owned by IC Industries. It serves primarily the western division of Tennessee, with strong connections to the Gulf coast and to many northern cities.

There is one (1) 72-foot timber trestle bridge (bridge number 333.6; **SEE EXHIBIT G, below**) located in the town of Athens, Tennessee, along this railway that is over 50 years old (the cut-off for designation as a historic structure); however, CSX does not consider timber trestle bridges as “historic” since it is CSX’s required maintenance practice to repair timber trestle bridges on an “ongoing and as needed” basis, thus making changes and repairs to these bridges on various occasions. Repair and/or maintenance records are not retained due to the unique safety requirements that timber trestle bridges retain; thus the historic qualities of such bridges are continually being altered due to safety and operational requirements. No other historic structures or elements exist along the 6.4-mile railway under consideration for a trail/greenway.

Work required for crossings, path development, and other areas is discussed under “Trail Construction Options”.

#### **EXHIBIT G – TIMBER TRESTLE BRIDGE**



## TRAILS IN TENNESSEE AND ELSEWHERE

There are currently 11 Rail-Trails in the State of Tennessee; the longest rail-trail is the Shelby Farms Greenway Trail at 6.7 miles. The proposed rail-trail between Athens and Englewood would be the third longest rail-trail in the State of Tennessee, after the Cumberland River Bicentennial Trail, which is 6.5 miles long. The majority of other rail-trails are less than 2 miles in length. There are 15 rail-trails in neighboring Virginia, including the 34-mile Virginia Creeper Recreational Trail, and the 45-mile Washington and Old Dominion Railroad Regional Park. North Carolina also has 15 rail-trails, of which most are very short and urban except for the American Tobacco Trail in Chatham County, which is 19 miles long. Georgia has only 7 rail-trails, with the Muscogee County Chattahoochee Riverwalk at 15 miles being the longest rail-trail.

Many States have trails in progress or have “rail banked” greenways under consideration for future development. The Rails-to-Trails Conservancy serves as the national voice for more than **150,000 members** and supporters along with **19,000 miles of rail-trail projects developed across the United States.**

There are still more than **9,000 miles of potential rail-trails** waiting to be built (LPA is a member of the Rails-to-Trails Conservancy). In addition, many individual states have organizations (state-sponsored and volunteer) to assist with Rails-to-Trails project. The State of Tennessee has a Greenways and Trails Coordinator, Mr. Robert Richards; Mr. Richards was very helpful in the assembling of data and providing proper contacts for this report. Tennessee also has it's own organization for Rails-to-Trails, the “Tennessee Trails Association” (<http://www.tennesseetrails.org/>). Typically, these organizations (and the reports they generate, including the “Trail Building Toolbox”) provide valuable information on comparative construction costs and operational costs of Rails-to-Trails projects.

Also, there is much data available on the peripheral effects of trails on communities, including tourism gains, economic development aspects of Trails, new business development effects of Trail building, increased property valuation, very low crime and general population responses to Trail traffic, as well as other general data reports. A summary of pertinent data compilations is included within this report.

For example, here are some key points from the *2020 Tennessee State Recreation Report*, Economic Impacts of Tennessee State Parks report:

- The recreation survey included questions for the 564 visitors to Tennessee State Parks about their use of and attitudes toward Tennessee State Parks and their most recent State Park trip expenditures.
- In 2008-2009, an estimated 16.9 million people visited Tennessee State Parks.
- With an estimated three (3) people per vehicle, there were 5,637,623 groups who visited State Parks with an average mean expenditure per group per trip of \$128.64
- These trips resulted in \$725.2 million in direct expenditures by State Park



visitors

- For every dollar spent on trips to Tennessee State Parks, an additional \$1.11 of economic activity was generated throughout the state. When the direct and indirect expenditures were combined, the impact of Tennessee State Parks to the state's economy was \$1.5 billion in total industry output.
- For every dollar spent from the State Park's budget allocation from the general fund (\$41 million), it generates over \$17 in direct expenditures and over \$37 in economic impacts (total industry output).
- The total indirect business taxes generated from expenditures by Tennessee State Park visitors were over \$106 million.
- The \$725 million in direct expenditures supports almost 12,000 jobs across Tennessee.
- \$1.5 billion in total industry output supports over 18,600 jobs in Tennessee.

In addition, there are reports from a number of other states regarding the success and "draw" of Rails-to-Trails projects:

- Visitors to Ohio's Little Miami Scenic Trail spend an average of \$13.54 per visit just on food, beverages and transportation to the trail. In addition, they spend an estimated \$277 per person each year on clothing, equipment and accessories to use during these trail trips. The total economic benefit is impressive considering there are an estimated 150,000 trail users per year.
- The Mispillion River Greenway in Milford, Delaware, is credited with inspiring downtown reinvestment and a net gain in new business with more than 250 people now working in a downtown that was nearly vacant 10 years ago.
- In the months following the opening of the Mineral Belt Trail in Leadville, Colorado, the city reported a 19 percent increase in sales tax revenues. Owners of restaurants and lodging facilities report that they are serving customers who come into town specifically to "ride the trail". The trail has helped Leadville recover from the economic blow of a mine closure in 1999.
- Lanesboro, on the Root River Trail in Southeastern Minnesota, is an often-cited example of the economic impact a trail can have. Pre- and post-trail Lanesboro, a town of about 800 residents, differ dramatically. Post-trail Lanesboro boasts 12 B&Bs (with year-long waiting lists), 8 restaurants, an art gallery, a museum, and a thriving community theater well-off enough to offer housing to its actors. Economically speaking, the Root River Trail has been very, very good for Lanesboro, with an estimated annual economic impact of over \$5 Million.

And there are many other examples of Rail-to-Trail success. Rises in property values, people wanting real estate along the trail, the creation of new tourism, and other facets of increased revenue have rejuvenated communities like Damascus, Virginia and Lanesboro, Minnesota.

## THE PLAN FOR A RAIL-TRAIL IN MCMINN COUNTY

### INTENDED USE

First, it is significant to remember that Trails and greenways are not synonymous. Greenways indicate the preservation or designation of a corridor that protects cultural or natural resources or the creation of linear conservation areas, while trails differ in that they are primarily pathways. Trails provide opportunities for recreation, non-motorized and motorized transportation, viewing scenic areas, exploring nature (for the casual viewer and for schoolchildren, etc.), viewing wildlife in their natural habitat, and other activities. McMinn County intends to operate a “Trail”, rather than a Greenway. There are various “Rail-Trail” types, including trails for individuals with disabilities, cyclists, walkers, hikers, joggers, off-road vehicle enthusiasts, horseback riders, and roller blades/skateboarders. However, for this plan for McMinn County, we PROPOSE the use of the Rail-Trail as a “Multi-use” trail, to three types of users; the casual hiker/walker; the bicycle rider; and a possible third use by horseback riders (as an option for shared use and/or to be used in defined areas). It is NOT recommended to allow motorized vehicle use on the Trail, due to noise/environmental damage/liability. We also discuss several different formats for the trail surface, and several different formats for the entire trail coverage (partially-paved, fully paved, and not paved). Often, cost and availability of funds may dictate the options chosen, but a number of options are presented in this feasibility study.

As indicated and shown in Exhibit A, the Rail-Trail in McMinn County is a linear trail – a fairly level, straight line between Athens and Englewood. The entire length of the trail is around a 5.8-6 mile stretch, transected in several areas by highway crossings. Approximately 2/3 of the length of the trail on the way to Englewood, the trail crosses State Road 39; this may be a good area for a stop/parking lot/rest area for those who do not desire to make the entire trip (to be discussed later), or it may be an area to sub-divide the trail into two parts, also. As mentioned also, the trail is currently composed only of the ballast left in place by CSX. Therefore, the trail will require a minimum of two (and possible three) trail “heads”. A trailhead typically has an “information kiosk” to provide brochures/information about the trail (length, locations of restrooms/water/amenities, scenic points of information, travel time, rules/regulations, times of operation, and other information); signage; and a primary trail access point. Some trails also have businesses around the trailhead, including restaurants, coffee shops, bicycle shops, etc. A trailhead will be required at the Englewood end of the trail, and at least one at the Athens end of the trail (on one of the “Spurs”). Again, surveys of the property at the trailhead should be taken and approximate areas should be secured based on average usage (see figures in **TABLE 1** at the end of this document) per day, and number of average visitors expected to use the trail per day. Appropriate paved parking

should be available, along with the other amenities listed.

Other trails in the US span a range from primarily “destination” trails to primarily “access” trails, with most falling somewhere in-between as some combination of the two. Destination trails tend to be longer and more remote – that is further from major population centers. They are also the primary destination of trail users – the users come to spend time on the trail, not just use it as another way to get to somewhere else. Access trails, at the other end, tend to be shorter and inside major population centers. The trail is often NOT the primary destination of the trail users – the users come because the trail is a healthier or cheaper or more fun way to reach a park or a museum or an event such as a fair or athletic contest.

The distinction is relevant to this report because destination trails require more of their own amenities, such as parking and restrooms, while an access trail can rely on the existence of such amenities at the primary destination, such as the park, museum, or sports facility.

Combination/Multi-use trails, as LPA estimates this one will be, need a middle package of amenities – more than a pure access trail, but fewer than a pure destination trail.

## **TRAIL SURFACE**

The surface of the trail can often be the most determining factor in use, traffic patterns, and overall trail attractiveness. For a classic example, look at the case of the Root River Trail in Minnesota – the previously mentioned town of Lanesboro. Located in Southeastern Minnesota, for the first 12 years of the Root River Trails’ existence, the trail was unpaved – and largely unused. Finally, in the 12<sup>th</sup> year, the trail was paved – and the paving of the trail induced tremendous amounts of usage, particularly among bicyclists and inline skaters. Overall revenues and economic impact in Lanesboro, previously estimated at around \$200,000/year, went up to over \$5 Million per year (including additional tax revenue and new business generation). Thus, surface choice can make a serious difference in type of client, numbers of clients, and overall revenue received from a trail in a particular area.

The Cumberland River Bicentennial Trail is partially paved and partially unpaved (the second half of the trail is compacted gravel surface). The first 3.7 miles of the Cumberland River Bicentennial Trail is suitable for “street” bicycle riders and is also handicap accessible (wheelchair and motorized chair accessible); there is a “comfort station” with restrooms and tap water available at the mid-point of the trail. The second part of the trail is 3 miles long and is called “Eagle Pass”; as mentioned, it is compacted gravel and it is not suitable for “road bikes”, but it can



be used by “mountain bikes” or off-road bikes and by equestrian participants. The Cumberland Bicentennial Trail is a good example of a multi-purpose trail used by the three groups recommended for the trail in McMinn County.

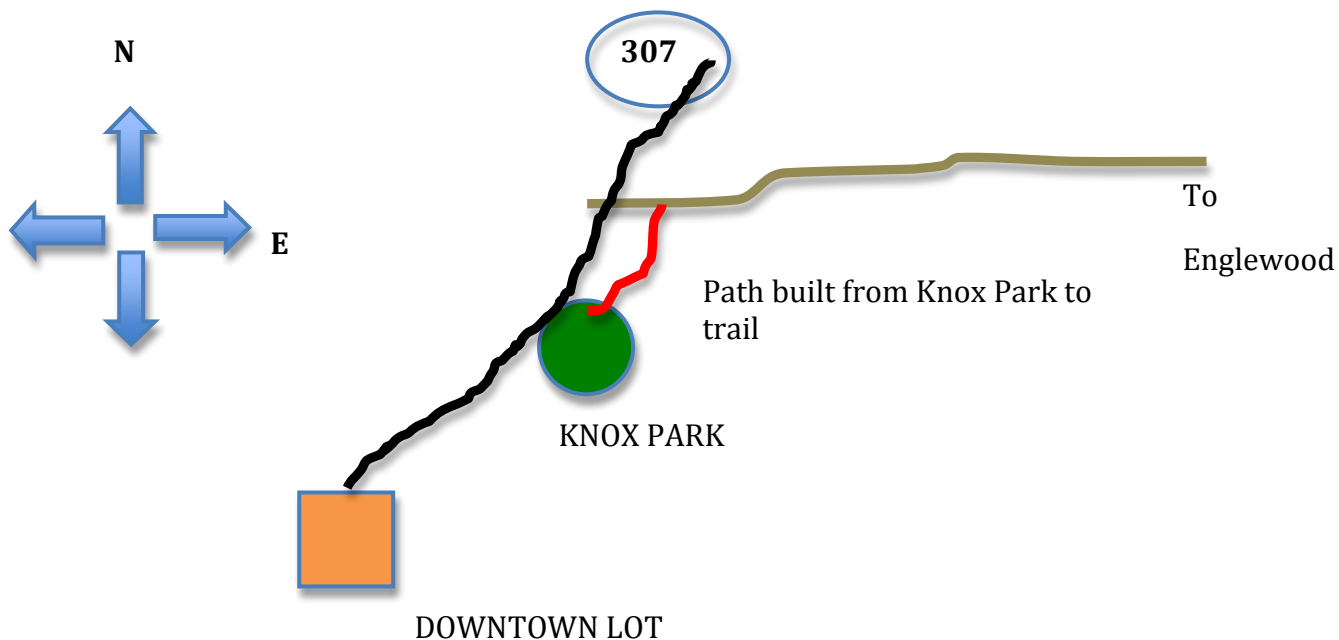
The Bloomington Rail-Trail (and Clear Creek Trail) is another example of a multi-purpose trail, with the Bloomington Rail-Trail (3 Miles) being composed of finely crushed, packed gravel and accessible to most hiking, horseback riding and off-road bike traffic, and the Clear Creek Trail (2.3 Miles) paved with asphalt, and used by road bicycles, hikers, roller bladers and wheelchair traffic. The two trails are connected and form a contiguous 5.3-mile trail together.

The trail surface composition typically defines what types of users will use the trail on a regular basis. Individuals who ride regular “street/road” bicycles (bicycles with narrow tire gauges) will require a “paved” surface of asphalt or concrete, or even a softer composite surface such as soil cement or resin-based stabilized material for a firm-riding surface. Those who ride “off-road” or “mountain” bikes are typically satisfied with composite surfaces, including compacted gravel, crushed stone, wood chips, or natural earth. Bridges or certain areas may even be composed of wood planking in a “boardwalk”-type construction. While horseback riders may adapt to nearly any type of surface, interviews revealed the preferred surface types are “soft-based” such as resin-based stabilized material composite material, compacted gravel, clay and natural earth.

Therefore, considering the overall length of this potential Rail-Trail, it is recommended that consideration be given to providing at least a portion of the Trail surface with a firm, paved surface to attract the majority of users, including street/road bicyclists, hikers/walkers, roller blade enthusiasts, and those requiring handicapped access. A second portion of the Trail surface should be more of a “natural” or unpaved surface (crushed stone, compacted gravel or composite) to provide a reasonable surface for equestrian use, off-road bikers and hiking enthusiasts. This would also mitigate the overall cost of the project by not requiring a large expense of paving the entire length of the trail. A reasonable mid-point could be selected (see possible projected paths on **EXHIBIT H, next page**) for the surface transition. The amount of the trail selected for paving vs. natural surface could be determined by the total budget amount available plus consideration of a natural “break point” in the trail to set up a site for people to enter/exit the trail, and other factors (such as location of restrooms, parking, access in general, etc.). Regardless, LPA recommends that at least some portion of the trail be paved to attract a wide variety of users and to provide access to handicapped individuals. This will require using either asphalt, concrete, or a soil cement/resin based material to form a firm, permanent surface to support bicycles, wheelchairs, roller blades and hikers/walkers. The rest of the trail could be composed of fly ash (?), composite material, clay and/or crushed rock to support horseback riders and/or hikers and off-road bikers.

Where the right-of-way associated with the trail is wide enough, some trails provide a 4-foot to 5-foot wide “soft path” alongside the 8 to 12 foot wide “hard path” to allow others that prefer a soft surface to travel alongside those that prefer or require a hard path. This would provide a longer trail path for potential runners and/or horseback riders, making an excellent “destination trail” for running and/or equestrian use (utilizing the entire 6.4 miles for races or horse use, if possible).

## EXHIBIT H – POSSIBLE PATH OF TRAIL



### KEY:

**GREEN – KNOX PARK**

**BROWN – PATH OF EXISTING RAIL-TRAIL TO ENGLEWOOD**

**RED – TRAIL TO BE BUILT FROM KNOX PARK TO RAIL-TRAIL**

**BLACK – STATE ROAD 307**

**ORANGE – DOWNTOWN LOT (SITE OF END OF ORIGINAL SPUR)**

The cost of each type of surface is outlined in **TABLE 2 (ATTACHED)** in the Appendices of this document. Consideration was given to “low” and “high” estimates; note these estimates are provided for the “entire length of the trail”, not for portions, although costs per mile are provided as well. A “Boardwalk” option is the highest cost, and also the highest maintenance cost, as wood is more likely to wear and tear and will require more frequent replacement and repair. After wood, Concrete is the next most expensive option, with an asphalt surface a close third. However, there are various types of asphalt surfaces now available, such as “glassphalt”, permeable asphalt/concrete mixture, and traditional asphalt. Regardless of the surface chosen, consideration should be given to the following variables:

- Initial Capital Cost – trail surface costs can vary dramatically depending on surface/sub-surface prep, site accessibility, aggregate base availability, and of course overall amount of selected trail surface (including current material and labor costs). Costs can vary as low as \$50,000-\$65,000 per mile for natural earth or wood chips versus \$500,000-\$2,000,000 per mile for concrete or boardwalk surfaces.
- Maintenance Costs – the anticipated long-term life of a surface can vary from a single year (wood chips in a moist climate) to 25+ years (poured reinforced concrete). Also, some trail surfaces will require regular inspection while others will only need sporadic inspection, and some trails can be repaired with volunteer effort (such as spreading additional wood chips) versus the repair of a concrete surface requires a skilled craftsman and is thus more expensive.
- Availability of materials – this also plays into the overall costs of the trail, and is relevant to the area of the country in which the trail is location; in the eastern U.S., crushed limestone is a common trail surface as it is readily available and reasonably-priced, but in the western U.S. it is cost-prohibitive. Also, in some areas the cost of asphalt has risen dramatically in recent years.
- Anticipated frequency of use – Who are the anticipated users of the trail? Will the trail surface be required to support horseback riders, bicyclists, handicapped users (wheelchairs & motorized chairs), and roller blade enthusiasts? Consideration should be given to the shoulder area of the trail to accommodate multiple users, making it wide enough for passing, and soft enough for those who prefer a soft surface for walking/horseback riding/hiking. Very smooth surfaces are required for skating and for motorized chairs/wheelchair users.
- Susceptibility to Vandalism – it is not often thought of, but softer surfaces are very susceptible to damage by vandals, including removal of wood chips, gravel, and damage to soft surface material. Also, graffiti on hard surface material should be considered, and thought should be given to “trail patrol” to protect the trail investment.

LPA recommends that McMinn County consider, at the onset at least, a “partially-

paved” section of trail to attract bicyclists/roller blade enthusiasts/hikers/handicapped access individuals; the trail could be subdivided to allow the remainder (larger section) of the trail to remain as more of a “natural surface” of either a composite surface or crushed limestone, with a natural earth shoulder, for equestrian use and for hikers/bird watchers/off-road bicycle riders. Or, the trail itself can be “sub-divided” into biking/hard surface on one side, and composite/horseback riding on the other side – a “dual purpose, dual use, side-by-side” design, rather than a “path-down-the-middle” design, or traditional look. This trail is not long enough for typical bicycle riders (a typical long-term bike ride is approximately 12 miles, which would involve riding this trail up and back), so paving the length of the trail, completely, eventually, would be desirable. At the onset, the exact length of both sections should be determined by natural “breaks” in the trail, plus funds available to “pave” the more expensive section of the proposed trail. In the next section, the report presents what LPA was able to gather about the potential economic benefits of this design. As discussed above, the goal might be to eventually have both a hard path and a soft path the entire length of the trail, or at least in all places where the property is wide enough for such a double path.

## **ADDITIONAL COSTS**

Items of additional costs depend on the types of “amenities” put into the trail as a “park or recreational area”. At the very least, the trail requires “trail head” areas – access points at (at a minimum) each end of the trail where users may gain ingress and egress to the trail. (The trail may or may not require its own place or places where users can park vehicles while using the trail, as discussed above.)

In addition, the Trail in McMinn County should also consider having a “mid-point” or partway area on or around Highway 39 for easy ingress/egress from that major artery. Typically, the size of the parking areas depend on overall user data profiles; parking areas should be able to handle recreational vehicles, horse trailers (if the trail is designed for equestrian use), and parking for enough vehicles at “peak” traffic period. Typical trails of similar length/size have parking areas that can accommodate at least 100-150 vehicles per lot, with “overflow” space in nearby areas (Cumberland Bicentennial Trail and the Bloomington Trail/Clear Creek Trail). It is difficult to predict parking needs/requirements from the outset but it is recommended that parking at each end be considered to accommodate at least 100 vehicles simultaneously to meet “peak” traffic potential. Parking areas should have designated areas for horse trailers only (to provide for easy traffic flow); those parking areas should be properly designed by qualified personnel to allow for easy “pull-in, pull-out” to accommodate 50-60’ trailer rigs. Good “flow-through” design will alleviate the need for backing in or out and will also prevent traffic blockage in the parking areas.

Other amenities include restroom facilities, information kiosks, and running water, as a minimum; typically, restrooms are provided at each trailhead and at a mid-way point in a

trail of this length. Approximate costs are outlined in Table 2 for each of these items. Running water is generally provided from a “closed tap” and trail users are to provide their own bottle/bucket/carrier for the water. In addition, the construction of bridge railings will be required for safety reasons; there are three (3) bridges over the course of the trail. Again, the costs for bridge railing construction are outlined in Table 2.

Other items include signage (trail markers, distance signage, directional signage) and signage/crossing warning for the 5 road crossings in the area (see Map on Exhibit A); this will involve 10 potential signs (one in each direction). According to Jessica Wilson, Bicycle and Pedestrian Coordinator for the Tennessee Department of Transportation Long Range Planning Department, “ I have enclosed TDOT's standard drawing for shared-use path crossings of roadways (**See EXHIBIT I, ATTACHED**). These standards basically mirror the design guidance given in AASHTO's Guide for the Development of Pedestrian and Bicycle Facilities and the MUTCD. (For horses, there is a supplemental sign in the MUTCD named W11-7 that features a horse and rider that can be placed 100 ft. from the crossing along with an 'AHEAD' supplemental plaque. We typically encourage the use of the fluorescent yellow-green background because it stands out better than the traditional yellow background) you can read more about this info on p. 130 of the MUTCD: <http://mutcd.fhwa.dot.gov/pdfs/2009/part2c.pdf>.” Ms. Wilson was kind enough to send all requirements for signage for road crossing; the standards are attached as Exhibit I. Also, Ms. Wilson suggested contacting Mr. Terrance Hill ([Terrance.Hill@tn.gov](mailto:Terrance.Hill@tn.gov)) for further information regarding bicycle and pedestrian crossings. These crossings will also require culverts, grading and fill for the sides of the road leading up to the trail (particularly on the areas next to State Road 39, as the bank areas to the road there are quite steep; the other road areas are fairly accessible). This will involve some grading and fill of each area at a nominal expense. Mr. Hill was kind enough to provide traffic numbers for daily traffic at the road crossings.

Some of the crossings may benefit from trail re-alignment so that the actual path across the roadway is as short as possible – that is, at a right angle to the roadway. Other trails have also used “islands” or changes in surface near roadway crossings to remind trail users to be careful. One or more crossings may also require trimming of vegetation or moving signs, etc. so that trail users have the legally required site lines to each side of the crossing. Such adjustments also provide some warning to motorists (in addition to signage) that a trail crossing is nearby.

It is important to note there are excellent plot maps available from the McMinn County Planners Office (provided to LPA by Mr. Russell Thress) of the entire rail line site, indicating sewer lines, water lines, electrical lines, and other items along the track site. Copies of these documents are available in PDF format from LPA and/or the Planner's office, and are not attached to this document because of size/length. However, it is noted that there are several of these items along the length of the trail site.

Other potential expenses could involve landscaping at trailheads; the cost for kiosk construction, literature at the kiosk, and kiosk placement; trash receptacles along the

trail; bicycle racks at the trailheads; picnic tables/benches at the trailheads; benches along the trail, for rest stops; and clearing and grubbing of the existing trail. A local company estimate per acre was obtained for clearing and grubbing of the land; the estimate ranged from \$2500-\$4500 per acre and is included in Table 2.

Mitigation for environmental, safety or social reasons may add costs. For instance, in addition to any cleanup that may be required from prior uses on or near the trail area, the trail may have to include measures to deal with water or wildlife issues. Portions of the trail may need fencing for safety reasons (slope, bodies of water) or social reasons (limiting access to adjacent property). Although most studies show that homeowners adjacent to a trail eventually see their property values rise, they may still want fences. The situation for non-residential property near a trail is more complex, but appropriate barriers can go a long way to mitigating difficulties. Also worth mentioning is the need for installation of bollards along the trail in various locations (perhaps every 2 miles, and at all access points/road intersections) to prevent the use of the trail by ATV's or other motorized vehicles. The proper placement of these bollards will allow individuals to walk or bicycle through the bollards, or allow horses to easily step over them, but will prevent ATV's, four-wheelers and other motorized vehicles from using the trail. Regarding fencing, in some places, such as the Monon Trail in Indianapolis, such barriers for non-residential property also become canvases for public art – both from a rotating group of school kids, and other artists who want to gain exposure for their work. Such intentional public art also tends to sharply decrease the incidence of graffiti.

Operational expenses could include patrolling the trail; maintenance/repair of the trail (depending on how much volunteer assistance can be obtained for this activity, such as the aforementioned organization), the landscaping, the parking lot, the kiosk, the bridge railings, and other surfaces/areas; general housekeeping and maintenance of the restrooms and water source areas; general housekeeping and landscaping of the trail itself; and insurance costs (which are covered below). Again, most all of these costs have an estimate in Table 2.

## **POTENTIAL ECONOMIC BENEFITS**

Certainly, in other examples, the creation of a “Rail-Trail” has brought significant economic benefit to the surrounding area. As mentioned previously in this report, the examples of Damascus, Virginia, and Lanesboro, Minnesota, provide excellent “success” stories of how entire local economies were changed for the better by the presence of a Rail-Trail. The State of Tennessee has a Trail Association; also, the National Rails-to-Trails Conservancy lists 5 “classes of benefits” of Rail-Trails:

- Health – “Trails and Greenways create healthy recreation and transportation opportunities by providing people of all ages with attractive, safe, accessible and low-or-no-cost places to cycle, walk, hike, jog or skate.” Trails encourage people to exercise more, and studies have actually been performed that show the



presence of Trails lowers local health costs and increases healthy lifestyles in Trail locations.

- Transportation/Livability – Greenways and Trails “often function as viable transportation corridors”. Some areas of the country actually incorporate Trails into their transportation plans/concepts (more of an urban concept), but certainly Trails factor into a “livability” aspect of the local community, making it a more “pleasant and attractive” place to live – again, studies have been performed that show Trails can actually increase property values and make living along Trails a desirable location.
- Conservation/Environment – Trails have an added benefit of preserving the environment and the local natural landscapes/habitats in their location. They can also be “useful tools for wetlands preservation and improvement of air and water quality, and they allow humans to experience nature with minimal environmental impact”.
- Historic preservation/Community Identity – “Many community leaders have been surprised at how Trails have become sources of local community identity and pride”. Trails give communities a chance to preserve historical properties, to create a “local identity”, and to create civic pride in a cultural asset.
- Economy/Revitalization – this is the true subject of this section, and the “economic effects of trails and greenways are sometimes readily apparent (as in the case of trailside businesses) and are sometimes more subtle, like when a company decides to move to a particular community because of amenities like trails. There is no question, however, that countless communities across America have experienced an economic revitalization due in whole or in part to Trails and Greenways”.

The economic effects of Trails can be measured in various ways. First, the direct effects include tourism (the influx of non-residents into the county); the creation of new businesses to service those using the trail; the increase in purchases, consumer traffic and tax revenue to existing businesses; and trails can enhance/increase attendance and revenue at local festivals and events. Indirect economic effects of trails include increased tax revenues, increased utilization of associated local businesses, improved local downtowns, increased recognition and public relations for towns and businesses, and national/international exposure. Trails can open new vistas for small towns and cities, and provide new business opportunities for bicycle shops, bed and breakfasts, hotel/motels, horse tack shops, restaurants/coffee shops, retail stores, and other transportation/service businesses. There are many examples available online of “success stories” of economic gain by communities, both direct and indirect, as a result of Trail construction and operation (see **Appendix B, attached**). It is important to note this trail is a “connection” between two urban areas and is most likely, due to the overall length of the trail and the location, to be used by local citizenry; the typical profile of users is most likely to resemble other trails of this length and type as outlined in some of the appendices which compare other trails. If LPA had to make an estimate, in the early years before the trail is well publicized, well established, and well-known regionally and nationally, an estimate of around 90% local/10% outside visitor traffic could be expected. If the trail is paved, established, and well publicized outside the region, that profile could shift to a larger tourist visitation profile, bringing in more outside dollars as

people come to the region and stay in motels, visit other attractions and make use of local amenities. Again, the trail should not be seen as an “instant revenue source” or dynamic moneymaker, but a “profile enhancement” for the McMinn County area on a long-term basis, and enrichment to the local quality of life for the population of the East Central Tennessee region.

## **ALTERNATIVE USES**

There are other uses for the trail that should be explored to capitalize on the presence of the trail in McMinn County. The presence of Tennessee Wesleyan College in the area makes it possible to set up an adjacent facility (or to partner with the college to use their facilities) to use the trail as a “religious retreat area” on various occasions. The “business” of religious retreats/spiritual retreats/Christian retreats is quite active, with an estimate 2,000-retreat centers worldwide that are often used to capacity ([www.religiousretreats.com](http://www.religiousretreats.com)). Many of these retreats emphasize “back to nature” and retreats in a natural setting, to emphasize hiking, relaxation, drug recovery, detoxification, and meditation. Some retreats last several weeks, while many are “weekend” retreats. This could be an opportunity for both the community, bringing in outside participants to use the trail and the amenities offered by the town; and an opportunity for Tennessee Wesleyan College, to offer retreat services by providing faculty/staff speakers, accommodations for meetings, materials, and organizational services. Local, state, regional and even national church and religious groups could avail themselves of the opportunities to have the only spiritual retreat associated with a Rail-Trail! This is true “asset-based economic development”, at its best.

Other natural alternative uses are for special events associated with existing festivals. The presence of the Moofest in the spring, and the Pumpkintown festival in the fall, provide great opportunities to also attract people to use the trail in association with the festival. Both festivals should be used as an opportunity to “showcase” the trail by having events associated with the trail during the festivals – either bicycle rides, walks for “charities”, scenic tours (especially during the fall at the time of the Pumpkintown Festival), perhaps a “car show” at the trail head, and/or other events of significance. There is also tremendous opportunity to utilize the trail for “nature education” for local elementary schools and local children’s groups.

## **MAINTENANCE AND SECURITY**

There is a terrific report available on trail maintenance, composed by the Northeast Regional Office of the Rails to Trail Conservancy, at [http://www.railstotrails.org/resources/documents/resource\\_docs/maintenance\\_operation\\_s\\_report.pdf](http://www.railstotrails.org/resources/documents/resource_docs/maintenance_operation_s_report.pdf). This report does not attempt to recreate this excellent report here, but highlights some of the information for McMinn County and the trail under consideration.

First, it is recommended, as with similar trails across the country, that McMinn County develop a “Friends of the Trail” group. Typical groups of this type number from 50 to over 500 local citizens who support the trail concept and who are willing to volunteer a few hours each per month to secure the “well-being” of the trail, including litter removal, reporting the need for trail maintenance, monitoring overall trail conditions, manning the kiosk (during peak seasonal use), replenishing supplies at comfort stations and at the kiosk, assisting handicapped persons and others requiring assistance and information about the trail, and reporting suspicious activity to the proper authorities (See **EXHIBIT J, attached** for maintenance chart). Typically, several times per year, a “clean-up” session is held in which these large groups simultaneously walk the trail to look for litter, rubbish and overgrowth and to clean and clear the trail to maintain proper trail conditions. All or part of the group may be “sponsored” by local businesses; as the trail itself may be set up as a “non-profit corporation”, donations to support the trail and the “Friends of the Trail” may be tax-deductible for businesses. This situation should be set up with a Certified Public Accountant to insure compliance with all Federal regulations. The “Friends of the Trail” organization should be set up under the Chamber of Commerce as a functioning group under the direction of the Chamber.

For a general figure, maintenance costs may be “estimated” anywhere from \$500 to \$5,000 per mile/per year for similar trails, depending on the amount of volunteer labor versus contracted labor, as evaluated during the course of the Northeast Regional study (referred to above). LPA recommends using a higher figure to estimate trail maintenance costs at the outset of this effort, and costs may be adjusted after the first year of trail use. This figure of \$4,000/year/mile can be used for fundraising and/or volunteer recruitment efforts to defray maintenance expense.

In addition, on page 13 of this study (again, refer to [http://www.railstotrails.org/resources/documents/resource\\_docs/maintenance\\_operations\\_report.pdf](http://www.railstotrails.org/resources/documents/resource_docs/maintenance_operations_report.pdf)), the Northeast Regional Office of the Rails to Trails Conservancy discusses the use of “Coal Combustion By-Products” for use as a trail surface, and the advantages of CCB. It is worth considering, and discussing, with the Tennessee Valley Authority the possible use of “fly ash” as a trail surface covering as this has similarity to Coal Combustion By-Products. LPA also would recommend contacting the Northeast Regional Office of the Rails to Trails Conservancy to ask their advice on fly ash as a trail surface covering.

Also, sections of the trail may be “adopted” by businesses who volunteer to provide individuals/employees to continually monitor the trail as mentioned above to maintain proper trail conditions and to remove litter and refuse. These businesses may provide volunteers and assistance and may either fund the trail construction, fund trail maintenance or provide services in exchange for advertising in the trail brochure or in appropriate signage at the trailhead. There are many opportunities to allow local businesses to assist in the maintenance and upkeep of the trail, or to enlist the assistance of organizations. For example, the Southern Appalachian Back Country Horsemen organization has volunteered in advance, should this trail be accessible for equestrian use, to provide maintenance assistance for clearing and maintaining excess

vegetation, trees, and other necessary maintenance on the trail, free of charge. Mr. Bobby Mitchell of Sweetwater, Tennessee, was extremely interested in this trail development and mentioned in a meeting with LPA that his organization has provided maintenance services at other locations. The bicycle club has also indicated they would provide maintenance and upkeep assistance. This also allows for “volunteer assistance” to provide monitoring of the trail to avoid excess requirements on local sheriff resources or local police resources, and does not require extra taxpayer resources to monitor trail user behavior.

## LIABILITY AND INSURANCE

A Rail-Trail, like any other recreational amenity or land, carries some inherent liability, and ownership of the trail creates some liability considerations. The primary objective of trail management should be to insure trail user safety and to minimize risk to all users. Many rail-trails are covered by city, county and/or state self-insurance policies, and public liability risks from trails are actually quite small when compared to other liability risk items such as public swimming pools, playgrounds, skateboarding parks, etc. “Recreational use” statutes in all 50 states also protect private landowners who allow public access to their property, as when a trail crosses or comes up against their property. Under these statutes no landowner is liable for recreational injuries resulting from carelessness if they provide public access to their land for recreational purposes. Recreational use statutes vary from state to state; it is strongly advised that McMinn County consult an attorney knowledgeable in this area to determine the current status of Recreational Use Statutes in Tennessee.

The most important aspects to liability are to *plan ahead* – to mitigate any risk at the onset of constructing and maintaining the trail. First, as mentioned, set up the trail (and the “Friends of the Trail” as a separate non-profit organization under a responsible party with limited assets, such as the local Chamber of Commerce or some other quasi-governmental administration. Second, check the design and concept of the trail fully to determine any potential “hazards” – areas prone to erosion; bridges/trestles; steep embankments; road/rail crossings; falling timber potential; water hazards; and other environmental hazards. Take steps to mitigate these hazards (building handrails, barriers, fences, reinforcing banks, etc.). Conduct regular inspections of the trail site to assess potential hazards, and keep records of observations and corrective actions. Provide necessary warning signs and signals in places where appropriate (See **EXHIBIT K, attached**). Comply with all standards and public laws concerning signage and labeling of intersections, crossings, and danger areas.

Insurance is also a necessity for a trail. Typically, general liability insurance, workers compensation (if any employees/workers are involved) and insurance for vandalism, theft and fire are all typical policy coverage required for a trail. These types of insurance coverage are not expensive, and are the “minimum” for trails. If an organization has difficulty obtaining these types of coverage from a local agent, they

may apply through the Land Trust Alliance in Washington, D.C. ([www.lta.org](http://www.lta.org)) to look at alternatives to local insurance coverage. A local agent can provide exact costs.

## CONCLUSIONS AND SUMMARY

LPA has determined there is significant “upside” potential for a “Rails-to-Trails” trail project in McMinn County for the trail site between Athens, Tennessee and Englewood, Tennessee. LPA recommends a single, contiguous portion of the trail be set aside for the trail, with access to the trail from Knox Park in Athens with a pathway to be built from Knox Park to the main trail section, with the trail continuing to Englewood. A determination of the length of section to pave with a suitable material should be made based on finances and a formal survey of a satisfactory “break point” for paved vs. unpaved sections; surface construction can be done in 5-6 “phases” of development. Initially, at least a contiguous 2 miles of the trail should be paved for a maximum “attraction factor” for the trail; examples (such as those given in this report) show very clearly that paved trail is extremely important to attract bicycle riders, those who need wheelchair/handicapped access, and “casual” walkers/hikers to the trail. Indeed, the very explicit example of Lanesboro shows a dramatic increase in traffic after a section of the trail in Minnesota was finally paved. It is the opinion of LPA that failure to pave any section of the trail in McMinn County would severely hamper the efforts of the McMinn County Trail Group to attract large groups of outside tourists and others to use the trail throughout the year. It is important to note that bicycle users form a large portion of the user groups of almost any paved trail, and they are significant contributors to the economic factors of most trails.

While it is not truly possible to estimate the number of users per year, or at any given time, similar trails have occasionally garnered more than 1,000 visitors per day during peak usage periods, although something like 100 visitors per day is much more typical, and have attracted more than 39,000 visitors per year. Some key facts on Tennessee “state parks” include the following:

- In 2008-2009, an estimated 16.9 million people visited Tennessee State Parks
- With an estimated three (3) people per vehicle, there were 5,637,623 groups who visited State Parks with an average mean expenditure per group per trip of \$128.64
- These trips resulted in \$725.2 million in direct expenditures by State Park visitors
- For every dollar spent on trips to Tennessee State Parks, an additional \$1.11 of economic activity was generated throughout the state. When direct and indirect expenditures were combined, the impact of Tennessee State Parks to the state’s economy was \$1.5 billion in total industry output

- For every dollar spent from the State Park's budget allocation from the general fund (\$41 million), it generates over \$17 in direct expenditures and over \$37 in economic impacts (total industry output)
- The total indirect business taxes generated from expenditures by Tennessee State Park visitors were over \$106 million
- The \$725 million in direct expenditures supports almost 12,000 jobs across Tennessee

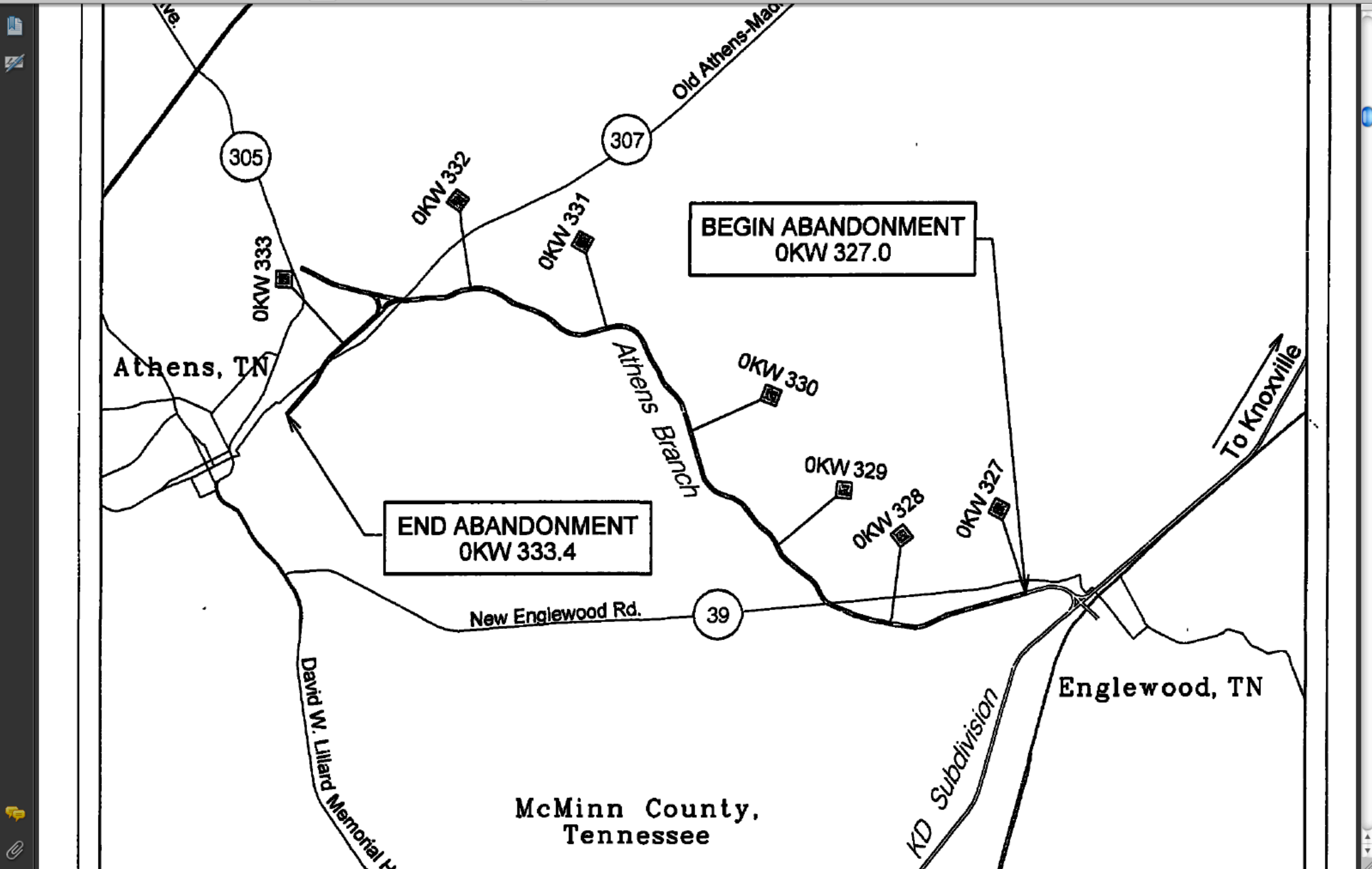
As you can easily see, this represents "state parks", but also indicates the huge impact outdoor tourism has on the state's economy. The trail in McMinn County could easily be used as an "anchor" for additional amenities – parks, other recreational opportunities, to attract people and keep people in McMinn County, and to "pitch" McMinn County as a possible "tourist destination" in East Central Tennessee. Also, coupling the existence of the trail with the existing festivals in McMinn County – the MooFest and the Pumpkinfest in the fall, especially when the weather is cool and the leaves are changing, when the outdoor scenery in East Central Tennessee is at its best – could easily prove to be a reasonable tourism attraction piece to increase the amount of visitors coming to McMinn County and utilizing the trail, visiting the festival, and using the local restaurants, patronizing the local stores, hotels, and other amenities available in McMinn County. The trail is another "key attraction piece" in the overall potential for McMinn County outdoor tourism. However, one should remember that this trail is mostly an "access" trail, for local citizens to enjoy the recreational and health benefits of the trail; tourism is certainly an asset, but not the primary value or asset of the trail. It will also take time for the trail to develop a reputation regionally and nationally, and to establish itself in the marketplace. No trail has become an "overnight success" or has delivered dramatic economic development results for the surrounding communities affected by trail development; the economic potential of trails in local towns has been realized over time, with the development of associated businesses to service trail users, with the influx of tourism, with the improved health and well-being of local citizens, and with the improved reputation and attraction potential of the local community, among other factors.

And along with these attraction outcomes of the trail, the resulting business creation and community pride are indeed additional benefits of the trail. New businesses – bicycle sales and service stores and hiking gear shops, horse tack shops, restaurants and coffee shops, bed and breakfasts/hotels/motels, other additional business capacity in the area are all potential business results from increased local business traffic due to trail attraction potential. Again, while direct measurement of this type of economic improvement cannot be calculated in advance, examples of economic development due to trail creation can be evaluated in several case studies of trails across the country, and are readily available on the Rails-to-Trails Conservancy website ([www.railstotrails.org](http://www.railstotrails.org)).

There are sources of funding available nationwide for constructing trails (see **Exhibit L**,



**attached)** and certainly local sponsorships, volunteers and regional/state groups that will assist with this effort. A “Rails-to-Trails” project benefits the economy of a local area, region, and state – there is much to gain by everyone from increased health benefits, increased revenue, new jobs, and increased civic pride/a better civic identity. The Rails to Trails project in McMinn County is for a healthy personal – and healthy economic – future for everyone involved.



## **EXHIBIT B – 1995 Track Abandonment Notice**

### **[Docket No. AB-55 (Sub-No. 503X)] CSX Transportation, Inc.— Abandonment Exemption—McMinn County, TN**

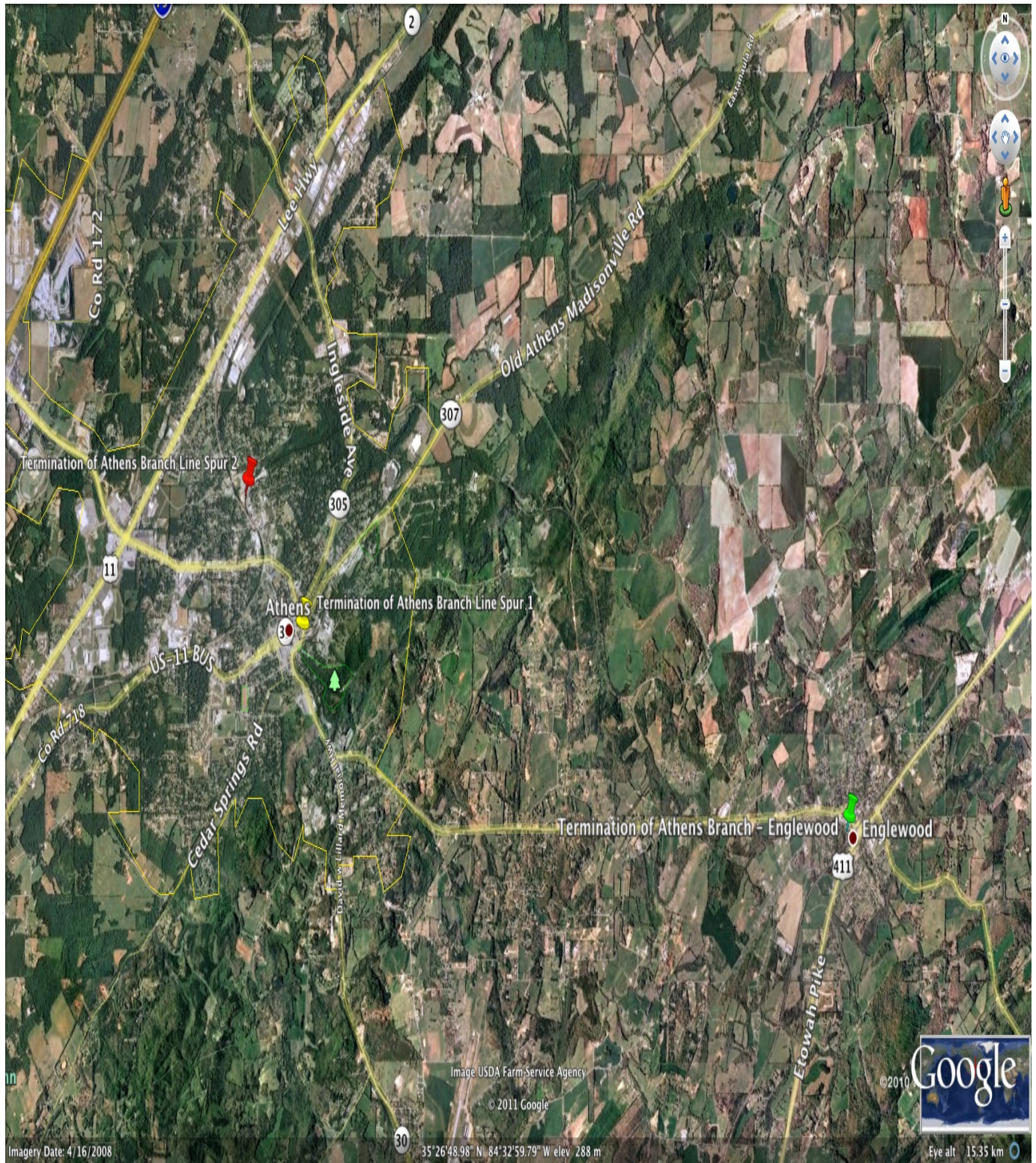
CSX Transportation, Inc. (CSXT) has filed a verified notice under 49 CFR Part 1152 Subpart F—Exempt Abandonments to abandon a 1.41-mile rail line between milepost 333.2 and 334.61 in Athens, McMinn County, TN. CSXT has certified that: (1) no local traffic has moved over the line for at least 2 years; (2) any overhead traffic on the line can be rerouted over other lines; (3) no formal complaint filed by a user of rail service on the line (or by a State or local government entity acting on behalf of such user) regarding cessation of service over the line either is pending with the Commission or with any U.S. District Court or has been decided in complainant's favor within the last 2 years; and (4) the requirements at 49 CFR 1105.7 (environmental report), 49 CFR 1105.8 (historic report), 49 CFR 1105.11 and 1152.50(d)(1) (notice to government agencies), and 49 CFR 1105.12 (newspaper publication) have been met. As a condition to this exemption, any employee adversely affected by the abandonment shall be protected under Oregon Short Line R. Co.—Abandonment—Goshen, 360 I.C.C. 91 (1979). To address whether employees are adequately protected, a petition for partial revocation under 49 U.S.C. 10505(d) must be filed. This exemption will be effective March 23, 1995, unless stayed or a statement of intent to file an offer of financial assistance (OFA) is filed. Petitions to stay that do not involve environmental issues,<sup>1</sup> statements of intent to file an OFA under 49 CFR 1152.27(c)(2),<sup>2</sup> and trail use/rail banking requests under 49 CFR 1152.29 3 must be filed by March 3, 1995. Petitions to reopen or requests for public use conditions under 49 CFR 1152.28 must be filed by March 13, 1995. An original and 10 copies of any such filing must be sent to the Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423. In addition, one copy must be served on Charles M. Rosenberger, CSX Transportation, Inc., 500 Water Street J150, Jacksonville, FL 32202. If the verified notice contains false or misleading information, the exemption is void ab initio. CSXT has filed an environmental report which addresses the abandonment's effects, if any, on the environment and historic resources. The Commission's Section of Environmental Analysis (SEA) will issue an environmental assessment (EA) by February 24, 1995. A copy of the EA may be obtained by writing to SEA (Room 3219, Interstate Commerce Commission, Washington, DC 20423) or by calling Elaine Kaiser at (202) 927- 6248. Comments on environmental and historic preservation matters must be filed within 15 days after the EA becomes available to the public. Environmental, historic preservation, public use, or trail use/rail banking conditions will be imposed, where appropriate, in a subsequent decision.

Decided: February 14, 1995. By the Commission, David M. Konschnik, Director, Office of Proceedings.

Vernon A. Williams, Secretary.

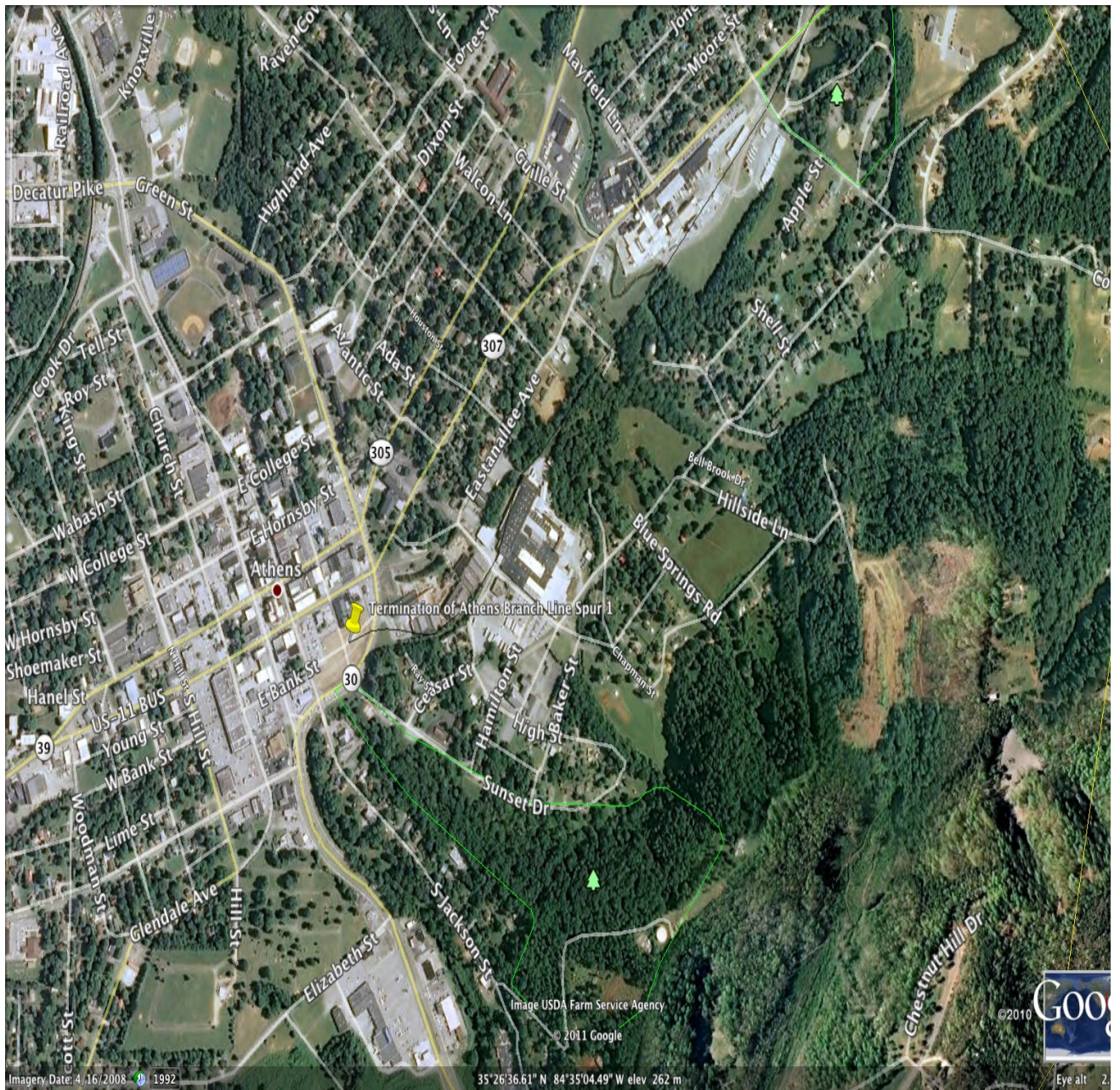


## EXHIBIT C – TRACK MAP – GOOGLE EARTH



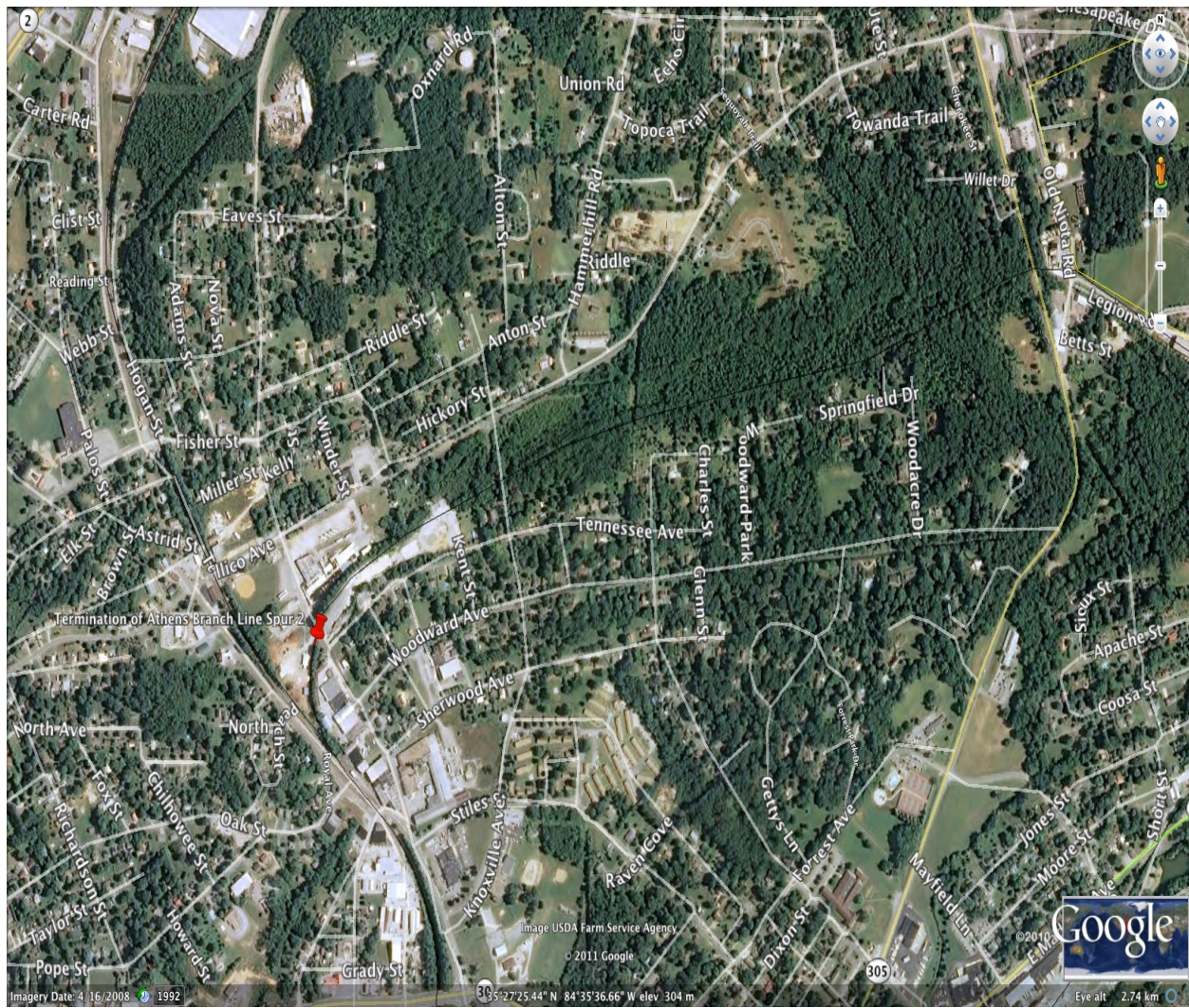


# EXHIBIT D – SPUR “A” MAP – GOOGLE EARTH





## EXHIBIT E – SPUR “B” MAP GOOGLE EARTH





## EXHIBIT F – POTENTIAL TRAIL SITE



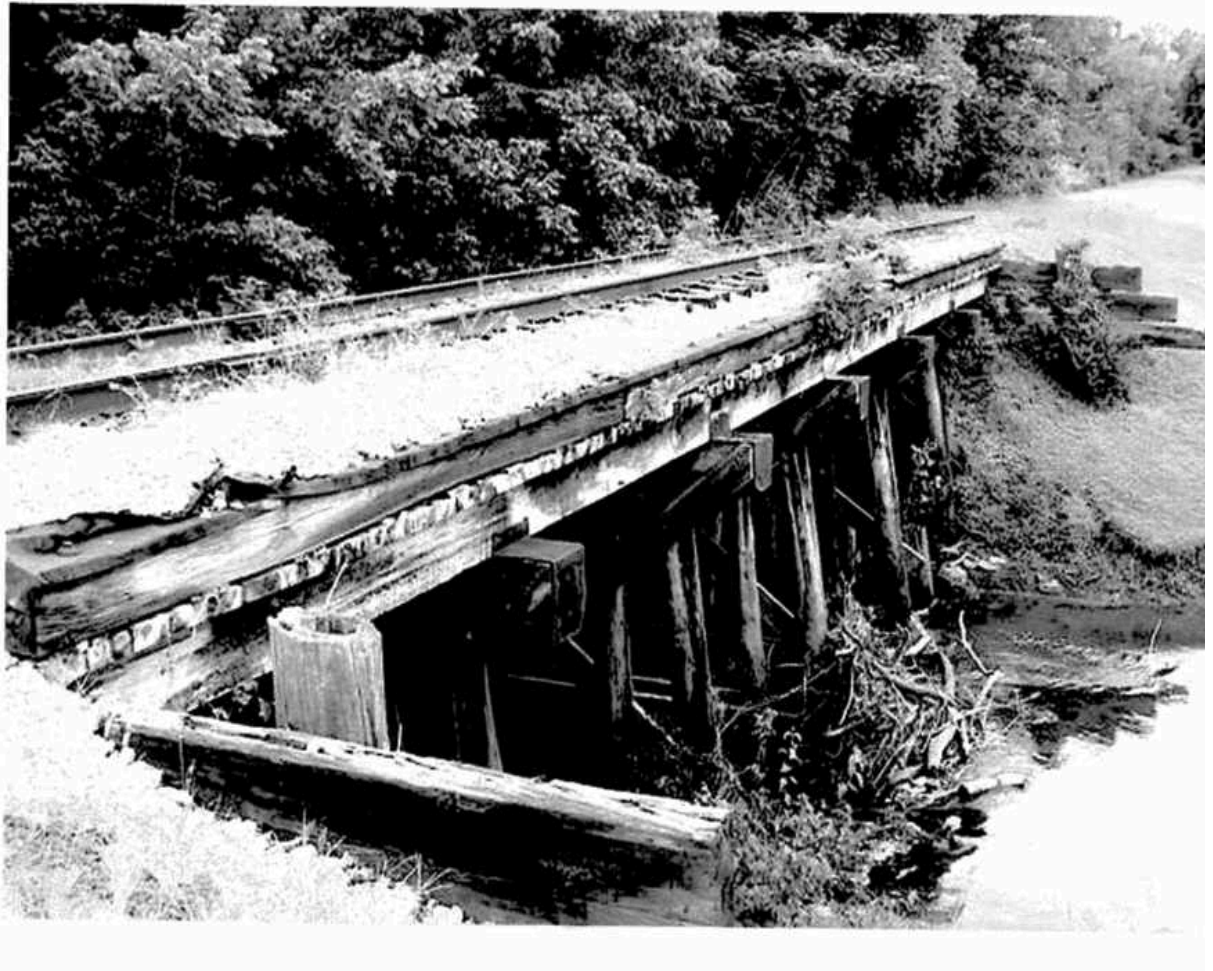


EXHIBIT F (Cont'd)

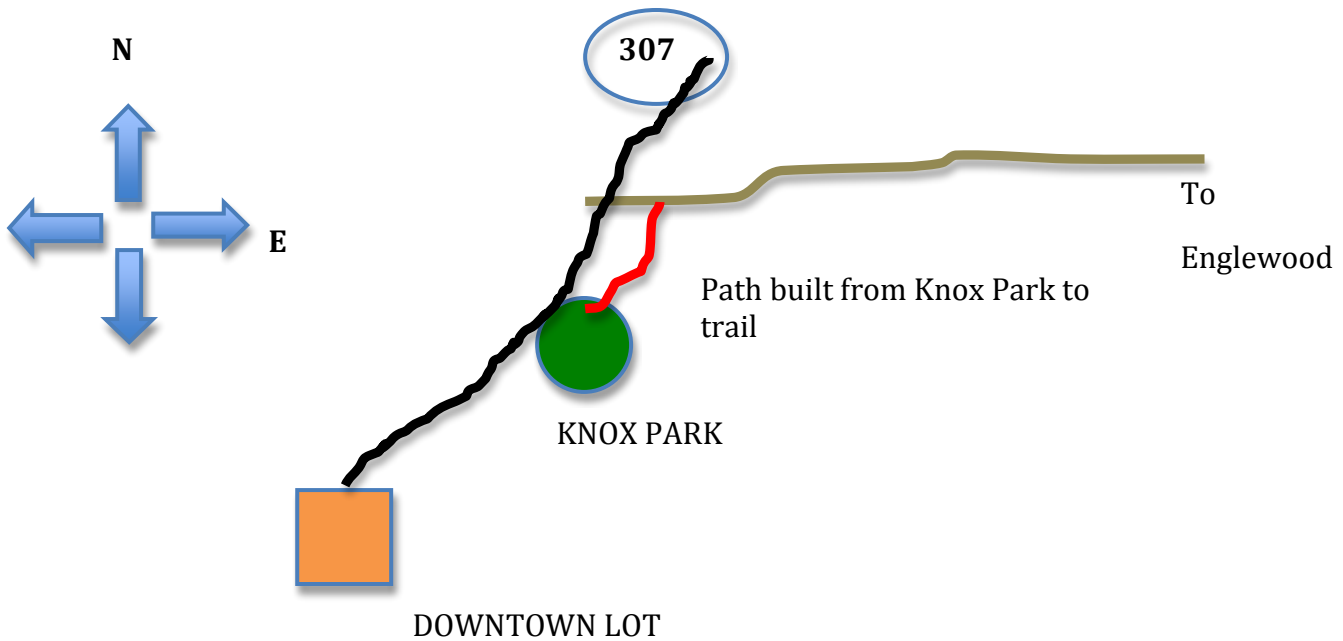




EXHIBIT G – TIMBER TRESTLE BRIDGE



## EXHIBIT H – POSSIBLE PATH OF TRAIL



### KEY:

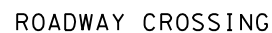
**GREEN – KNOX PARK**

**BROWN – PATH OF EXISTING RAIL-TRAIL TO ENGLEWOOD**

**RED – TRAIL TO BE BUILT FROM KNOX PARK TO RAIL-TRAIL**

**BLACK – STATE ROAD 307**

**ORANGE – DOWNTOWN LOT (SITE OF END OF ORIGINAL SPUR)**



- (A) WHEN OVERHEAD SIGNS ARE USED ON SHARED-USE PATHS, THE CLEARANCE FROM THE BOTTOM EDGE OF THE SIGN TO THE PATH SURFACE DIRECTLY UNDER THE SIGN SHALL BE A MINIMUM OF 8 FEET.
- (B) WHEN PLACEMENT OF STOP OR YIELD SIGNS IS CONSIDERED, PRIORITY AT A SHARED-USE PATHS/ROADWAY INTERSECTION SHOULD BE ASSIGNED WITH CONSIDERATION OF THE FOLLOWING:
  - 1. RELATIVE SPEEDS OF SHARED-USE PATH AND ROADWAY USERS;
  - 2. RELATIVE VOLUMES OF SHARED-USE PATH AND ROADWAY TRAFFIC; AND
  - 3. RELATIVE IMPORTANCE OF SHARED-USE PATH AND ROADWAY.
- (C) WHEN ENGINEERING JUDGMENT DETERMINES THAT THE VISIBILITY OF THE INTERSECTION IS LIMITED ON THE SHARED-USE PATH APPROACH, INTERSECTION WARNING SIGNS SHOULD BE USED. INTERSECTION WARNING SIGNS SHOULD NOT BE USED WHERE THE SHARED-USE PATH APPROACH TO THE INTERSECTION IS CONTROLLED BY A STOP SIGN, YIELD SIGN, OR A TRAFFIC CONTROL SIGNAL.
- (D) A SOLID WHITE LINE MAY BE USED ON SHARED-USE PATHS TO SEPARATE DIFFERENT TYPES OF USERS. THE R9-7 SIGN MAY BE USED TO SUPPLEMENT THE SOLID WHITE LINE. SMALLER SIZE LETTERS AND SYMBOLS MAY BE USED ON SHARED-USE PATHS. FIXED OBJECTS ADJACENT TO SHARED-USE PATHS MAY BE MARKED WITH OBJECT MARKERS.
- (E) WHERE PASSING IS PROHIBITED USE 4" SINGLE SOLID YELLOW LINE.
- (F) THE MINIMUM SIGN SIZES FOR SHARED-USE PATHS, SHALL BE THOSE SHOWN IN TABLE 9B-1 IN MUTCD, PART 9 AND SHALL BE USED ONLY FOR SIGNS INSTALLED SPECIFICALLY FOR BICYCLE TRAFFIC APPLICATIONS. THE MINIMUM SIGN SIZES FOR BICYCLE FACILITIES SHALL NOT BE USED FOR SIGNS THAT ARE PLACED IN A LOCATION THAT WOULD HAVE ANY APPLICATION TO OTHER VEHICLES.

SIGNING  
AND  
PAVEMENT MARKINGS  
FOR  
SHARED-USE PATHS

## EXHIBIT J – TRAIL MAINTENANCE

<b>ACTIVITY</b>	<b>DESCRIPTION</b>	<b>FREQUENCY</b>	<b>COMMENTS</b>
Mowing	Trail head, possible side of trail	12-18 times annually	Contracted out or volunteer basis work
Pruning/removal of trees, vegetation debris	Clear path up to 4-foot in width, maintain vertical clearance, remove fallen and dead vegetation	Periodical	Contract or volunteer basis
Signage	Maintenance of information and directional signs	Painting and implantation of signs	Contract or volunteer basis
Kiosk	Maintenance of kiosk, replenishment of literature	Weekly/Annually	Volunteer basis
Trail surface	Repair surface from erosion, usage damage, etc.	Periodically as needed	Contract, volunteer basis
Drainage	Clear drainage outlets, clean swales from debris	Periodically as needed	Contract, volunteer basis
Litter control	Trail litter control, trail head litter control	Periodically as needed	Volunteer basis
Trash collection	Trail head, trail receptacles	Weekly	Contract basis or volunteer
Bridge maintenance	Inspection and maintenance of handrails	Annually by TDOT	Qualified contractor
Parking Lot maintenance	Re-striping, pot hole repair	Annually	Qualified contractor
Removal of horse manure, natural refuse, etc.	Possible dead animal, waste material	Daily	Owner responsibility? Contractor?
Comfort Station/Water supply maintenance	Replacement of supplies/cleaning and maintenance of public restrooms, water supplies	Daily, periodically	Volunteers, contractor

EXHIBIT K – SIGNAGE TO COVER LIABILITY ISSUES



“PLEASE DISMOUNT AND LEAD HORSE ACROSS TRESTLE”



## EXHIBIT L – FUNDING SOURCES

Fund Name	Funding Agent	Projects Funded	Applicant	Match Req.	Information	Projects
Rivers & Trails Program	National Park Service	Planning, Educational and technical assistance on trail implementation	Local & state Government, non-profits, community groups	50%	<a href="http://www.nps.gov/rcta">www.nps.gov/rcta</a>	Help “Friends” groups create plan for implementation
American Greenways	The Conservation Fund	Planning & Design	Non – Profits, Local Gov’t	None	<a href="http://www.conservationfund.org">www.conservationfund.org</a>	Small grants to help in design, planning
Recreational Trails Program	FHWA.Gov	Trail construction & maintainance	Varies	None	<a href="http://www.fhwa.dot.gov/environment/rectrails">http://www.fhwa.dot.gov/environment/rectrails</a> Contact State Administrator, Robert Richards - <a href="mailto:robert.richards@tn.gov">robert.richards@tn.gov</a>	Construction, maintenance, etc.
Transportation Enhancements	Fed. Hwy. Admin.	Pedestrian & Bicycle Facilities	Local Gov’t, non-profits	None	<a href="http://www.fhwa.dot.gov/environment/te/">http://www.fhwa.dot.gov/environment/te/</a>	12 categories – see website
Nat’l Scenic Byways Program	Fed. Hwy Admin.	Scenic Byways	Local Gov’t, non-profits	None	<a href="http://www.byways.org/learn/program.html">http://www.byways.org/learn/program.html</a>	See website
TN State Recreation Services Division	Community Recreation Initiative Grants	Trail and Health initiatives	Local Gov’t, non-profits	Varies	<a href="mailto:Alice.Burke@state.tn.us">Alice.Burke@state.tn.us</a> <a href="http://tennessee.gov/environment/recreation/grants/shtml">http://tennessee.gov/environment/recreation/grants/shtml</a>	See website
TN State Lands Acquisition Fund	Tn. Dept. of Environment & Conservation	Includes Trails and Greenways	Local Gov’t, Nonprofit	Varies	As above	See website
TVA	TVA	Trails & Greenways	Local Gov’t, non-profit	Varies	Community re-development grants	

TABLE 1 - USAGE FIGURES FOR SELECTED TRAILS (2004-2009 Surveys)

<b>TRAIL</b>	<b># Surveyed</b>	<b>Local/Non-Local</b>	<b>TOTAL USERS/YR</b>
Pine Creek, PA	1049	31%/69%	138,227
Perkiomen, PA	694	96%/4%	397,814
Va. Creeper Trail	1036	47%/53%	130,172
Wash/Old Dom. Trail	1426	95%/5%	1,707,353
Monon, IN	373	95%/5%	662,064
Torrey C. Brown, MD	767	96%/4%	800,000
Clear Creek/B-Line, IN	820	72%/28%	211,360

Rails to Trails Cost Worksheet

Type of Cost				Per-Mile Cost Estimates		Length Involved (up to 6.4 miles)	Total Cost Estimate	
				Low	High		Low	High
Land and/or Rights Aquisition				?	?			
Environmental Review								
Clearing & Grubbing	Total Acreage Est. @ 26.4 Acres							
				\$3,000.00	\$20,000.00 (env estimates not per mile)			
Construction				\$10,154.00	\$18,277.00 (Local Est. @\$2500/\$4500 per acre)		\$66,000.00	\$118,800.00
	Misc. Construction	Culverts, fill, grade	5 crossings x 2 approaches each	\$5,000	\$10,000		\$25,000	\$50,000
	Surface	Hard						
			Boardwalk	\$1,500,000	\$2,000,000		\$9,600,000.00	\$12,800,000.00
			Asphalt	\$200,000	\$300,000		\$1,280,000.00	\$1,920,000.00
			Concrete	\$300,000	\$500,000		\$1,920,000.00	\$3,200,000.00
			Crushed/granular stone	\$80,000	\$120,000		\$512,000.00	\$768,000.00
			Soil Cement	\$40,000	\$80,000		\$256,000.00	\$512,000.00
			Resin-based stablilized material	varies				
		Soft						
			Natural Earth	\$35,000	\$70,000		\$224,000.00	\$448,000.00
			Wood Chips	\$50,000	\$85,000		\$320,000.00	\$544,000.00
Amenities								
	Bollards		6 sets				\$12,000.00	\$25,000.00
	Gardens/Landscaping						?	?
	Art						?	?
	Crossings	SR 307 & SR 39		\$2,500	\$4,000 2 crossings		\$5,000.00	\$8,000.00
	Rest Stops	(benches)		\$500	\$1,200 Approx. 6 required		\$3,000.00	\$7,200.00
	Bridges	(railings)		\$2,500	\$5,000		\$2,500	\$5,000.00
	Signage	(dual-direction, wood)		\$150	\$300 Approx. 8 signs required		\$1,200.00	\$2,400.00
	Trailheads							
			restrooms	\$25,000	\$35,000 include well & septic (3)		\$75,000.00	\$105,000.00
			parking*	\$20,000	\$40,000		\$20,000	\$40,000
			tables & benches	\$300	\$500 (6 picnic tables, 6 benches)		\$1,200.00	\$3,000.00
			bike racks	\$500	\$1,000 (2 @ each trailhead)		\$1,000.00	\$2,000.00
			kiosk	\$4,000	\$8,000 (1 @ each trailhead)		\$8,000.00	\$16,000.00
			trash receptacles	\$250	\$500 (6 total)		\$1,500.00	\$3,000.00
			potable water	\$500	\$1,000 (spigot by restrooms - 3)		\$1,500.00	\$3,000.00
Maintenance & Management	Ongoing costs							
	Patrols			TBD	TBD			
	Repair			TBD	TBD			
	Insurance			TBD	TBD			
*If not already present								

## SELECTED REFERENCES

**“West Virginia study looks at trail tourism on rail trail”**

<http://www.americantrails.org/resources/economics/GreenbrierWV.html>.

**“The Indiana Trails Study: A Study of Trails in 6 Indiana Cities”**

<http://www.americantrails.org/resources/adjacent/INtrailstudy01.html>

**“Resources and Library: Funding & Resources”**

<http://www.americantrails.org/resources/funding/index.html>

This page contains all sorts of ideas and links to help fund a trails project, including public and private sources of funds, forms of user fees, etc. It even includes a checklist for grant writers.

**“Tennessee Trails Association”**

<http://www.tennesseetrails.org/> - Just to let you there is such a thing – it focuses on hiking trails, there is also a free trail guide for horse-riding trails at [http://www.picktnproducts.org/farm\\_fun/equine\\_res.html](http://www.picktnproducts.org/farm_fun/equine_res.html), and the American Trails page on **“Tennessee Trail Resources”** -

<http://americantrails.org/resources/statetrails/TNstate.html> also lists sites for biking and mountain biking, greenways, hiking, long-distance, and even off-road vehicle trails.

Interestingly, it only has one site for rails to trails,

<http://www.chattbike.com/bikechat/railtrl.htm> and that is for a proposed trail in Sequatchie Valley. It would be 28 miles, so not directly comparable to this trail.

**“2008 Tennessee Greenways and Trails Plan”**

[http://www.tn.gov/environment/recreation/plan/gt\\_plan2008.pdf](http://www.tn.gov/environment/recreation/plan/gt_plan2008.pdf)

**“The Tennessee 2020 State Recreation Plan”**

<http://www.tn.gov/environment/recreation/plan/>

**“List of Rails to Trails in Tennessee”**

<http://www.traillink.com/trailsearch.aspx?tn=&st=TN&ct=&sp=N>

**“Benefits of Rail-Trails”**

<http://www.railstotrails.org/ourWork/trailBasics/benefits.html>

**“Trail-Building Toolbox”**

<http://www.railstotrails.org/ourWork/trailBuilding/toolbox/index.html>

## **ACKNOWLEDGEMENTS**

The research, data collection and composition of this report would not have been possible without the help of the following people:

Robert Richards, CPRP, CPSI – Greenways & Trails Program Coordinator, State of Tennessee, for his great advice, direction and knowledge sharing;

Jessica L. Wilson, Bicycle & Pedestrian Coordinator, TDOT Long-Range Planning, State of Tennessee, for her assistance and advisement;

Stephen Miller, Urban Pathways Coordinator, Rails-to-Trails Conservancy, for his advice;

Russell Thress, McMinn County Planner's Office, for the great maps and detail;

To Linda Caldwell, Tennessee Overhill, for adding her immense knowledge of the local area and of the railroads;

To Sheriff Joe Guy, for taking me on the trail and assisting with his knowledge of the local area;

To Bobby Mitchell, Joanne Mitchell, and Judy Hadorn, Southern Appalachian Back Country Horsemen, for educating me about horse ridership, horse trails, and for volunteering their expertise;

To the numerous individuals in McMinn County I interviewed for this project that were enthusiastic about the potential for a Rails-to-Trails project (particularly Mayor Gentry and Rob Preston, who are very positive about their community); and to many others I probably didn't mention who volunteered advice, direction, ideas, and assistance.

And to my wife, Mary Lou Long, for her assistance, ideas, and inspiration, and her encouragement;

And especially to Mr. Rollie Cole of Austin, Texas, for his expertise and genius in researching and evaluating comparative projects and sites, and his valuable input in editing and advising me on the final product.